

Work Order ID 63094

Wednesday, October 20, 2010 4:06:01 PM

Page 1

Item ID: D350-591-213

Accept

Revision ID:

Item Name: Heli-Access-Step, Short LH

Start Date: 10/20/2010 Start Qty: 4.00

Required Date: 10/27/2010 Req'd Qty: 4.00

Reference:

Approvals: Process Plan: Date: 10-10-21 Tooling: Date:
QC: Date: SPC (Y/N): Date:

Run Start
Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3078	A								
DSI 9472	A								
100	DOCUMENT CONTROL	0.00							
DC	Memo	0.00							
Document Control	Photocopy bluefile and type labels as per PPP D350-591-213 CHG003								
110	Large Fab	0.00							
Large Fab	Memo	0.00							
Large Fab	1-Cut D2622-120 extrusion to 59.75" long as per Dwg D3078 2-Drill extrusion as per Dwg D3078 using Jig DT8680 for rivets. 3-Debur								

5/10/10 ch for a 10/11/10
10.10.25 4 p

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

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Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

8/10/10/25

74

130

Large Fab

0.00



Large Fab

Memo

0.00

Large Fab

1-Bevel end for welding FWD ONLY
2-Weld Support using Jig DT8681, weld Fwd End Plate as per QSI 004 & Dwg D3072
A/R Aluminum Rod m108436
3-Grind End Plate flush m114877

Pl 10.10.27

4

D

140

QC9- Inspect visual per QSI004- Fusion Welds

0.00



QC

Memo

0.00

Quality Control

4 D BE 10/10/28

W/O:		WORK ORDER CHANGES					
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[illegible]

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Stop

[illegible]

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Cust Item ID:

Required Date: 10/27/2010 Req'd Qty: 4.00

Customer:

Reference:

Run Start

Abstract

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Stop

11/11/11 11:11 AM

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

**Insp.
Stamp**

150 QC5- Inspect part completeness to step on W/O

150	QC5- Inspect part completeness to step on W/O	0.00
-----	---	------

[illegible]

QC

Memo

Quality Control

160

Chemical Conversion Coat per QSI005 4.1

160	Chemical Conversion Coat per QSI005 4.1	0.00
-----	---	------



HandFinish

Memo

Hand Finishing

170

QC3- Inspect Part Finish

170	QC3- Inspect Part Finish	0.00
-----	--------------------------	------

Abstract

QC

Memo

Quality Control

W/O:		WORK ORDER CHANGES					
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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200  Large Fab	Large Fab	0.00				4	0		
Large Fab	Memo 1- Rivet Leg Assembly as per Dwg D3078. 2-Bevel Aft end for welding 3-Inspect for foreign object as per QSI 024 4-Weld Aft End Plate as per QSI 004 & Dwg D3078 A/R Aluminum Rod <u>M108436</u> 5-Grind End Plate flush	0.00							<i>P.E. 10.11.02</i>
210  QC	QC9- Inspect visual per QSI004- Fusion Welds	0.00				4	0		
Quality Control	Memo	0.00							<i>BE 10/11/04</i>
220  QC	QC5- Inspect part completeness to step on W/O	0.00							
Quality Control	Memo	0.00							<i>Sokoloy</i> <i>(44)</i> <i>44</i>

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Reference:

Run Start

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230	Chemical Conversion Coat per QSI005 4.1	0.00							
	HandFinish	0.00							
	Hand Finishing								
240	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
	Powdercoat	0.00							
	Powder Coating								
250	Wing Walk as per dwg QSI005 4.4 Batch	0.00							
	HandFinish	0.00							
	Hand Finishing								

M 115291

Memo

START TIME: 10:35

OVEN TEMPERATURE: 320

FINISH TIME: 11:05

M 1157900

10/11/09

H BR 10-11-5

H BR 10-11-9

+ 0

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Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

260

QC3- Inspect Part Finish

0.00

8/10/10

0.00



QC

Memo

Quality Control

49
49

270

Pick Kit

0.00

0.00



Packaging

Memo

Packaging

10/10/10 sl 49

280

QC4- 100% Inspect kits for completeness

0.00

0.00



QC

Memo

Quality Control

49
49

Dart Aerospace Ltd

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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

290

0.00



Packaging

Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D350-591-213

Location: _____
PPP Rev: _____

300

0.00



QC

QC21- Final Inspection - Work Order Release

Memo

0.00

Quality Control

10/11/10 [Signature]

ck 10/11/10 [Signature]

MF
10-11-11

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Wednesday, October 20, 2010 4:06:04 PM

[illegible]**Required Date:** 10/27/2010

Required Qty: 4.00

Comments: IPP Rev:B 05.10.14 Modified step 10 KJ/EC
IPP Rev:C 06-06-19 Added D2732-030 AS PER DSI9294 JLM
IPP Rev:C 06-06-27 Revised as per DSI9340 JLM IPP Rev:D
10.03.17 incorporate seq 180 to 200 remove qc5 DD verified by:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2622-120C  Step Extrusion		Manufactured	No			110	Each	153.4200	0.5	2		10.10.25	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				WA		153.42							
				55214		3.42							
				58544		25							
				<u>61208</u>		125							
D3067-1  End Plate		Manufactured	No			130	Each	202.0000	1	4		10.10.27	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				WA		202							
				60141		38							
				<u>62664</u>		164							
D3063-1  Support		Manufactured	No			130	Each	36.0000	1	4		10.10.27	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				WA		36							
				351237		23							
				59663		36							

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Picklist Print

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Work Order ID: 63094

Parent Item: D350-591-213

Parent Item Name: Heli-Access-Step, Short LH

Start Date: 10/20/2010

Required Date: 10/27/2010

Start Qty: 4.00

Required Qty: 4.00

MS20600-AD4W4

Purchased

No

180

Each

1,427.000

16

64



Rivets

Location

Loc Qty

Loc Code

ST321

1427

113368

62

114181

11

114718

2

115573

352

115640

1000

D3066-1

Manufactured

No

180

Each

153.0000

2

8



Spacer

Location

Loc Qty

Loc Code

WA

153

60194

1

61205

48

62662

104

D3065-041

Manufactured

No

180

Each

61.0000

1

4



Step Leg Assembly Hi

Location

Loc Qty

Loc Code

WA

61

61216

36

62224

25

D3067-1

Manufactured

No

200

Each

202.0000

1

4



End Plate

Location

Loc Qty

Loc Code

WA

202

60141

38

62664

164

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Shop Packet Print

Page 2

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Work Order ID: 63094

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Parent Item Name: Heli-Access-Step, Short LH

Start Date: 10/20/2010

Required Date: 10/27/2010

Start Qty: 4.00

Required Qty: 4.00

AN3-35A Purchased No

270 Each

156.0000

2

8



Bolt



10/21/10

Location

Loc Qty

Loc Code

ST353

156

115108

6

115457

50

115936

100

D2856-400 Manufactured No

270 f

235.4160

0.6

2.4



Abraison Strip



10/21/10

Location

Loc Qty

Loc Code

ST403

235.4160421

56626

51.0960421

59920

184.32

2.4

cut qty of 1 at 4.00" X 7.20" as per dwg (D2856-400-720)

AN4-11A Purchased No

270 Each

408.0000

2

24



Bolt



10/21/10

pro ->

Location

Loc Qty

Loc Code

ST357

408

110382

208

115316

200

8

AN960JD416 NAS1149D0463J Purchased No

270 Each

24.0000

12

48



Washer



11/16/10 10/21/10

Location

Loc Qty

Loc Code

ST300

24

113288

24

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Page 3

Dart Aerospace Ltd

W/O: 63094		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
10/1/04	# 100	Perm. Change update Qty of any-119. Part List has @ Qty x2 per kit not Qty of 6. update w/o + Bom ADD copy of Bom for ref.	MA	10.11.11			J 10/1/04	

Part No: D350-591-213 PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Parent Item Name: Heli-Access-Step, Short LH

Start Date: 10/20/2010

Required Date: 10/27/2010

Start Qty: 4.00

Required Qty: 4.00

D2230-1

Manufactured No

270

Each

3.0000

2

8



Lug

Location

Loc Qty

Loc Code

ST476

3

61713

3

270

Each

2,346.000

2

8

MS21042L3

Purchased

No



Nut

Location

Loc Qty

Loc Code

ST300

2346

114523

49

114784

1297

115835

1000

270

Each

502.0000

4

16

AN4-13A

Purchased

No



Bolt

Location

Loc Qty

Loc Code

ST357

300

115936

300

ST358*

202

115159

202

270

f

96.1824

1

4.210526

D2732

Manufactured

No



Rubber Extrusion

Location

Loc Qty

Loc Code

ST412

96.182437

56516

96.182437

cut qty of 4 at 3.00" as per dwg(D2732-030)

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Start Date: 10/20/2010

Required Date: 10/27/2010

Start Qty: 4.00

Required Qty: 4.00

D2230-3 Manufactured No

270 Each 2.0000 2



Lug



38
B62660 10/11/10

Location

Loc Qty

Loc Code

ST476

2

55452

2

AN960JD10 NAS1149D0363J Purchased No

270 Each 8.0000 4



Washer



16
M115622 10/11/10

Location

Loc Qty

Loc Code

ST

6

107715

6

ST335

2

105792

2

MS21042L4 Purchased No

270 Each 3,257.000 6



Nut



124
10/11/10

Location

Loc Qty

Loc Code

ST300

3257

113422

68

114523

8

114718

16

114784

32

115108

133

115589

1900

115621

1100

24

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Required Date: 10/27/2010

Start Qty: 4.00

Required Qty: 4.00

AN4-16A

Purchased

No

270

Each

239.0000

4

16



Bolt



10/11/10 SP @ 4.0

Location

Loc Qty

Loc Code

ST360

239

115159

34

115374

105

115422

100

16

W/O:		WORK ORDER CHANGES					
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DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>#</i>	APPROVED <i>#</i>	DRAWING NO. D3078	REV. A SHEET 1 OF 2
DATE 02.09.11		TITLE STEP ASSEMBLY, HI SHORT SCALE NTS	
A	02.09.11	NEW ISSUE	

RELEASED
02.01.20

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. *63044*
10-10-21

Part No.	Description	QTY -041	QTY -042
D3078-041	Step Assembly, High Short (LH)	X	
D3078-042	Step Assembly, High Short (RH)		X
D2622-60	STEP EXTRUSION	1	1
D3063-1	SUPPORT	1	1
D3065-041	LEG ASSEMBLY	1	1
D3066-1	SPACER	2	2
D3067-1	END PLATE	2	2
MS20600AD4W4	RIVET	16	16

GENERAL NOTES:

- 1) -041 SHOWN, FOR -042 INSTALL D3063-1 SUPPORT OPPOSITE SIDE
- 2) WELD PER DART QSI 004
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT ASSEMBLY WHITE (4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

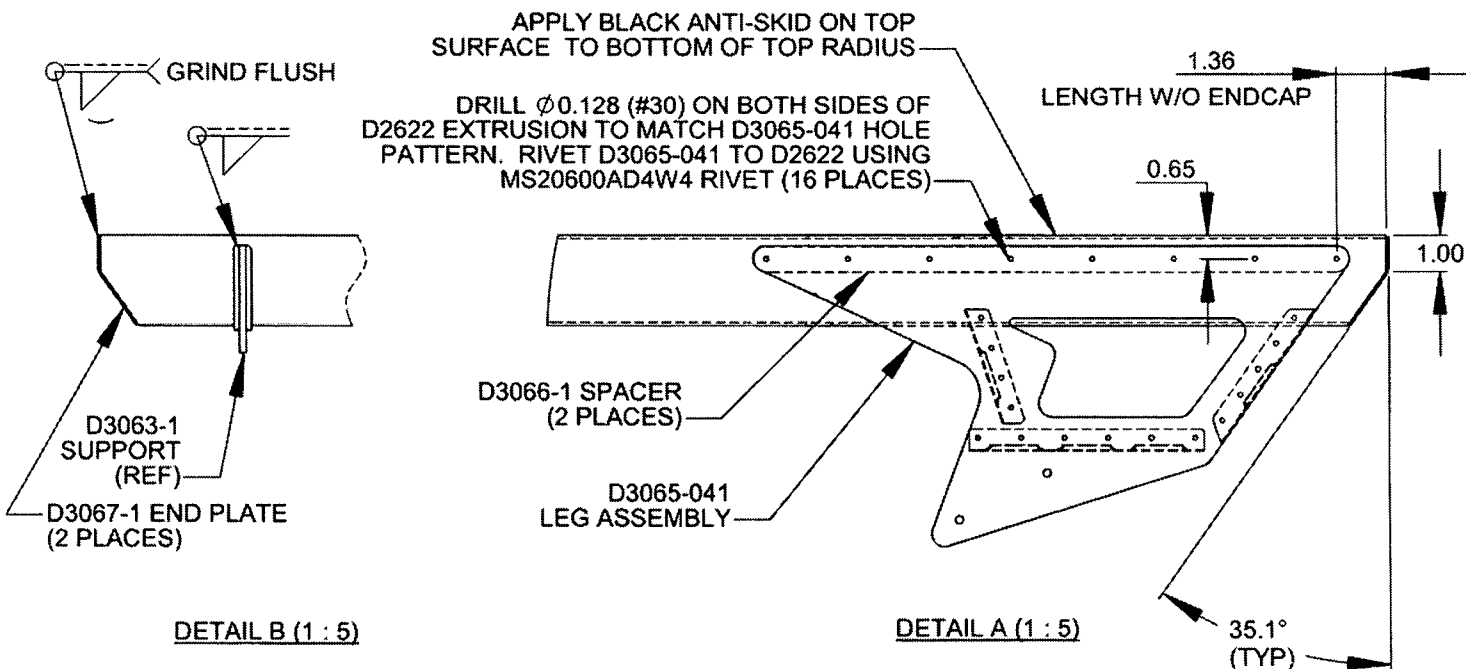
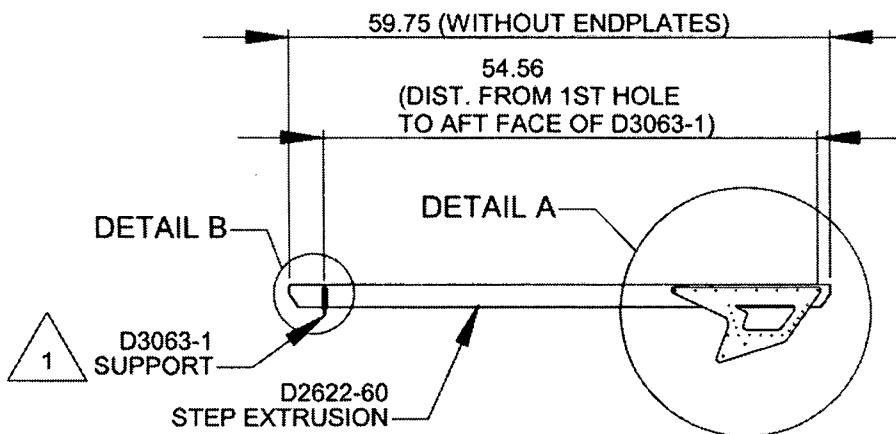
DART



DESIGN	<i>[Signature]</i>	DRAWN BY	<i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED	<i>[Signature]</i>	APPROVED	<i>[Signature]</i>	DRAWING NO. D3078
DATE	02.09.11	TITLE	STEP ASSEMBLY, HI SHORT	REV. A SHEET 2 OF 2
		SCALE	1:20	

RELEASED
02.09.2011

w/o 43099



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Qty -211	Qty -212	Qty -213	Qty -214	Qty -215	Qty -216	Qty -311	Qty -312	Part Number	Description
X								D350-591-211	<i>Heli-Access-Step</i> ™, Long Step – High Skid, LH
	X							D350-591-212	<i>Heli-Access-Step</i> ™, Long Step – High Skid, RH
		X						D350-591-213	<i>Heli-Access-Step</i> ™, Short Step – High Skid, LH
			X					D350-591-214	<i>Heli-Access-Step</i> ™, Short Step – High Skid, RH
				X				D350-591-215	<i>Heli-Access-Step</i> ™, Short Step – Low Skid, LH
					X			D350-591-216	<i>Heli-Access-Step</i> ™, Short Step – Low Skid, RH
						X		D350-591-311	<i>Heli-Access-Step</i> ™, Long Step – High Skid, LH
							X	D350-591-312	<i>Heli-Access-Step</i> ™, Long Step – High Skid, RH
1								D3070-041	STEP ASSEMBLY (HIGH-LONG, LH)
	1							D3070-042	STEP ASSEMBLY (HIGH-LONG, RH)
		1						D3078-041	STEP ASSEMBLY (HIGH-SHORT, LH)
			1					D3078-042	STEP ASSEMBLY (HIGH-SHORT, RH)
				1				D3168-041	STEP ASSEMBLY (LOW-SHORT, LH)
					1			D3168-042	STEP ASSEMBLY (LOW-SHORT, RH)
						1		D3272-041	STEP ASSEMBLY (HIGH-LONG, LH)
							1	D3272-042	STEP ASSEMBLY (HIGH-LONG, RH)
4	4							D2182B035	RUBBER CUSHION
		2	2	2	2			D2230-1	MOUNTING LUG
		2	2	2	2	4	4	D2230-3	MOUNTING LUG
8	8							D2274	RADIUS BLOCK
						2	2	D2618	BUSHING
4	4	4	4	4	4			D2732-030	CUSHION
2	2	1	1	1	1	2	2	D2856-400-720	ABRASION STRIP
2	2							D3064-1	CLAMP
1	1							D3079-041	SUPPORT ASSEMBLY
4	4							D3080-1	CLAMP
						2	2	D3235-1	MOUNTING LUG
						1	1	D3278-041	SUPPORT ASSEMBLY
2	2	2	2	2	2	2	2	AN3-35A	BOLT
10	10	2	2	2	2			AN4-11A	BOLT
		4	4	4	4	8	8	AN4-13A	BOLT
						2	2	AN5-36A	BOLT
4	4	4	4	4	4	4	4	AN960JD10	WASHER
20	20	12	12	12	12	16	16	AN960JD416	WASHER
						4	4	AN960JD516	WASHER
2	2	2	2	2	2	2	2	MS21042L3	NUT
10	10	6	6	6	6	8	8	MS21042L4	NUT
						2	2	MS21042L5	NUT
						1	1	*DSI 9410-011	STEP MODIFICATION KIT

*DSI 9410-011 Step Modification Kits are provided with all D350-591-311 and D350-591-312 Steps. This kit is provided as an option for the installer and is therefore **NOT REQUIRED** to complete the installation of the D350-591-311 or D350-591-312 Steps. Refer to Figure 21 for installation of the DSI 9410-011 Kit.

REFERENCE ONLY

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS D350-591 REV. G OR EARLIER
AND
INSTRUCTIONS OF CONTINUED AIRWORTHINESS ICA-D350-591 REV. 2 OR EARLIER
REF CANADIAN STC: SH92-6
REF FAA STC: SH967NE


For D350-591-213/-214/-215/-216 steps, customers have the option of installing D2732-030 cushion under the clamps to accommodate varying cross-tube diameters and to improve fit, as indicated in Installation Instructions D350-591. This Service Instruction adds longer AN4-16A bolts to the parts list to allow installation of these cushions. See Figure 1 on sheet 2 of this service instruction for reference. Installation of the D2856-400-720 Abrasion Strips per Installation Instructions D350-591 is not required when the cushions are installed.

For D350-591-213/-214/-215/-216 steps at CHG 003, the parts list of D350-591 Rev. G and ICA-D350-591 Rev. 2 is amended as follows:

ADD:

Qty -213	Qty -214	Qty -215	Qty -216	Part Number	Description
X				D350-591-213	Heli-Access-Step™, Short Step – High Skid, LH
	X			D350-591-214	Heli-Access-Step™, Short Step – High Skid, RH
		X		D350-591-215	Heli-Access-Step™, Short Step – Low Skid, LH
			X	D350-591-216	Heli-Access-Step™, Short Step – Low Skid, RH
4	4	4	4	AN4-16A	BOLT

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED
BY: 
D. SHEPHERD (DE # 02)
DATE: 09.08.05
CERT. NO.: SH92-6
ISSUE NO.: 11

A	NEW ISSUE	RF	09.08.05
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF	DRAWING NO.	REV. A
CHECKED	RF	DSI 9472	SHEET 1 OF 2
MFG. APPR.	NCA	TITLE	SCALE
APPROVED	NCA	BOLT ADDITION	NTS
DE APPR.	NCA	COPYRIGHT © 2009 BY DART AEROSPACE LTD	
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